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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/925,604

08/10/2001

Nobuhiro Shioya

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EXAMINER

LAM, THANH

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 11/07/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/925,604

Applicant(s)

Shioya et al.

Examiner

Thanh Lam

Art Unit

2834



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Aug 10, 2001 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2 6) ☐ Other:

Art Unit: 2834

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishikawa et al.

Ishikawa et al. (See figs. 1-10) disclose a rotary electric machine, comprising: a slip ring (41) disposed on a shaft (4) of a rotor (11); a brush (72) that contacts the slip ring; and a brush assembly (71) that supports the brush and provides a slip ring cavity (Q) that encloses the slip ring, wherein the brush assembly defines a first passage communicating with an inside and an outside the slip ring cavity, the first passage (D) having a first opening (8,62) that opens in an axial direction of the shaft, and wherein the brush assembly defines a second passage communicating with the inside and the outside the slip ring cavity, the second passage having a

Art Unit: 2834

second opening (6,82) that opens in a radial direction of the shaft and is located on a different location from the first opening.

Regarding claim 2, Ishikawa et al. disclose a portion (80) disposed along the first opening that prevents entry of a foreign substance into the first opening.

Regarding claim 3, Ishikawa et al. disclose a fan (9) that cools the rotary electric machine, wherein the second passage has a higher pressure drop than that of the first passage, and wherein the second opening is located closer to an inlet of the fan than the first opening.

Regarding claim 4, Ishikawa et al. disclose the second opening is located on a bottom region of the brush assembly when it is installed for usage.

Regarding claim 5, Ishikawa et al. disclose the brush assembly includes a frame that supports the rotor, and wherein the frame defines the first and second passages.

Regarding claim 6, Ishikawa et al. disclose the second opening is located circumferentially offset from the first opening.

Regarding claim 7, Ishikawa et al. disclose a fan that induces cooling air flow, wherein the brush assembly further includes a bearing that rotatably supports the shaft and a frame that supports the bearing, the frame defining a shaft hole in which the shaft is located and communicating with the slip ring cavity, a bearing holder located around the shaft hole, a narrower cooling air passage located on a radial outside of the bearing holder, a wider cooling air passage located behind the bearing holder and being wider than the narrower cooling air passage, and wherein the first passage is formed as a L-shaped passage comprising an axially extending

Art Unit: 2834

hole penetrating the bearing holder to reach the wider cooling air passage and a radially extending groove formed on the bearing holder communicating between the shaft hole and the axially extending hole, and the second passage is formed as a radially extending groove formed on the bearing holder communicating between the shaft hole and the narrower cooling air passage.

Regarding claim 8, Ishikawa et al. disclose the slip ring is located on an outside the frame, and wherein the brush assembly further includes a brush holder mounted on an outside of the frame that supports the brush, a cover that surrounds the slip ring with the brush holder, a rear cover that covers the brush holder and the brush cover and sealing members disposed between the frame and the slip ring cover and between the slip ring cover and the rear cover.

Regarding claim 9, Ishikawa et al. disclose the rear cover defines a third passage communicating between the inside and the outside of the slip ring.

Regarding claim 10, Ishikawa et al. disclose the brush assembly further defines a third passage communicating between the inside and the outside the slip ring cavity, and further comprising a fan that induces cooling air flow from the third passage to the first and second passages through the slip ring cavity.

Regarding claim 11, Ishikawa et al. disclose the third passage has more complex shape than that of the first and second passages, and the first passage has more complex shape than the second passage.

Art Unit: 2834

Regarding claim 12, (see figs. 1-10 similar to claim 1 above) Ishikawa et al. disclose a slip ring disposed on a shaft of a rotor; a brush that contacts the slip ring; and means for enclosing a slip ring in a slip ring cavity; intake means for taking air into the slip ring cavity; first discharging means for discharging air from the slip ring cavity in a first direction at a first location; second discharging means for discharging air from the slip ring cavity in a second direction different from the first direction at a second location different from the first location; and means for inducing air flow passing through the slip ring cavity.

Regarding claim 13, Ishikawa et al. disclose the second location is circumferentially offset from the first location.

Regarding claim 14, Ishikawa et al. disclose the second discharging means discharges air downwardly.

Regarding claim 15, Ishikawa et al. disclose the first discharging means discharges air in a radial direction.

Regarding claim 16, Ishikawa et al. disclose the intake means provides an air passage being more complex than another air passage provided by one of the first and second discharging means.

Regarding claim 17, Ishikawa et al. disclose the intake means takes air into an axial end of the cavity, and wherein the first discharging means and the second discharging means discharge air from another end of the cavity.

Art Unit: 2834

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Lam whose telephone number is (703) 308-7626. The fax phone number for this Group is (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0656.

A handwritten signature in black ink, appearing to read 'Thanh Lam', with a stylized flourish at the end.

Thanh Lam

Patent Examiner